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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,896	12/07/2005	Seppo Rousu	915-007.174	2786

4955 7590 09/09/2009

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EXAMINER	
PHAM, TIMOTHY X	

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
09/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/559,896	ROUSU ET AL.	
	Examiner	Art Unit	
	TIMOTHY PHAM	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 12-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 12-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-10 and 12-21 are pending in this application. Claim 11 is cancelled; and claims 19-21 are newly added.

Response to Arguments

2. Applicant's arguments with respect to claims 1-10 and 12-21 have been considered but are moot in view of the new ground(s) of rejection necessitated by the new limitations added and newly added claims 19-21.

Additionally, on page 10, 2nd and 3rd paragraph, of the Applicant's Response, applicant argues that:

"Claim 1 requires the possibility of determining a timing pattern for detected interfering signals based on a timing information provided by the communication system transceiver. This feature is considered to be known from *Thomas*. However, *Thomas* discloses at the most providing and using timing information/timing pattern. It would make no sense to determine a separate timing pattern based on provided timing information, because it is only the aim to modify the operation of a first subunit during transmission of a second subunit based on information of the second subunit. Thus, the timing information that is provided by the second subunit already represents exactly what is required for the modification. In the approach of *Thomas,* it would be even more useless to determine a timing pattern for detected interfering signals, since in *Thomas* the timing information is readily available at the time when the interference starts. Thus, feature A.2 of claim 1 is not disclosed by *Thomas*",

with the corresponding teaching indicating the arguments and the arts references below, the Examiner respectfully disagrees. Thomas does not explicitly teach determining a timing pattern for detected interfering signals based on a timing information provided by the communication system transceiver. But Thomas discloses the exact time of switching of the input characteristics of the low noise amplifier. The time of operation mode modification is needed for the first subunit (GPS) (see column 11, lines 58 through column 12, line 7), and

therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was to made to understand that this process characterizes as a canceller to project out the interference from the strongly interfering signals. During patent examination, the claims must be given their broadly reasonable interpretation. See MPEP 2111. The term "determining a timing pattern for detected interfering signals based on a timing information" is broadly claimed, therefore, it is broadly interpreted.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-10 and 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McConnell (US Patent No. 6961019; cited in PTO-892 Part of Paper No. 20090225) in view of Richards et al. (hereinafter "Richards"; US 2002/0061080), Thomas (US Patent No. 7010270; cited in PTO-892 Part of Paper No. 20090225) , and Suzuki (US 2003/0063597).

5. Regarding claims 1, 12, and 21 , McConnell discloses an apparatus and a method comprising:

a processor (Fig. 1, reference 116 or 118) configured to detect processing portion presence of interfering signals in a second frequency band (col. 3, lines 1-10; col. 4, lines 2-6; 29-32, e.g., by properly adjusting the phase and amplitude of signal 208 via controller 128 and blocks 204 and 206, the effects of interfering signal 132 can be reduced or eliminated), wherein

said second frequency band is used by a receiver to receive signals via a radio interface (col. 3, line 4; col. 4, lines 2-6, e.g. GPS receiver band), and wherein said receiver is combined in a single device with a communication system transceiver exchanging signals via a radio interface in a first frequency band (col. 3, lines 18-23, col. 4, lines 59-60, e.g., the combined wireless transceiver and GPS receiver contains circuitry that allows digitally controlled adjustment of the amplitude and phase of the replica signal).

McConnell fails to specifically disclose determining a timing pattern for detected interfering signals based on a timing information provided by said communication system transceiver, which timing information is indicative of timing for transmissions employed by said communication system transceiver; and

a processor configured to cause a manipulation of signals reaching said receiver during time intervals defined by a determined timing pattern, in order to reduce a performance degradation due to interfering signals originating from a transmitter external to said device, which transmitter employs a same timing for transmissions as said communication system transceiver of said device.

However, Richards discloses determining a timing pattern for detected interfering signals based on a timing information provided by said communication system transceiver (paragraph [0218], e.g., the timing of the sampling pulse train 730 matches the timing of the received signal pulse train 708, allowing the received signal 708 to be synchronously sampled in the correlator 710; notes that matching timing characterizes the timing pattern determination), which timing information is indicative of timing for transmissions employed by said communication system transceiver (paragraphs [0218], [0303]).

Therefore, taking the teachings of McConnell in combination of Richards as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to determine a timing pattern for detected interfering signals based on a timing information provided by communication system transceiver for advantages of reducing receiver sensitivity degradation.

McConnell in combination with Richards fails to specifically disclose a processor configured to cause a manipulation of signals reaching said receiver during time intervals defined by a determined timing pattern, in order to reduce a performance degradation due to interfering signals originating from a transmitter external to said device, which transmitter employs a same timing for transmissions as said communication system transceiver of said device.

However, Thomas disclose configuring to cause a manipulation of signals reaching receiver during time intervals defined by a determined timing pattern (col. 3, lines 58 through col. 4 lines 7, e.g., the exact time of switching and a prespecified time –e.g., 100 msec to 150 msec—before the out of the transmission burst by the second subunit 14; therefore, it is a manipulation of signal), in order to reduce a performance degradation due to interfering signals (col. 2, lines 11-15; col. 4, lines 19-26; col. 6, lines 10-18).

Therefore, taking the teachings of McConnell in combination of Richards and Thomas as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have a processor configured to cause a manipulation of signals reaching said receiver during time intervals defined by a determined timing pattern, in order to reduce a

performance degradation due to interfering signals originating from a transmitter external to said device for advantages of reducing receiver sensitivity degradation.

McConnell in combination with Richards and Thomas fails to specifically disclose originating from a transmitter external to said device, which transmitter employs a same timing for transmissions as said communication system transceiver of said device.

However, Suzuki discloses both terminals perform wireless transmission at the same time (paragraph [0102]).

Therefore, taking the teachings of McConnell in combination of Richards, Thomas, and Suzuki as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have a transmitter external to device, which transmitter employs a same timing for transmissions as communication system transceiver of device in order to reduce interference to wireless transmission signals of other terminal.

Regarding claim 2, McConnell in combination with Richards, Thomas, and Suzuki discloses the apparatus according to claim 1 above, wherein said processor configured to detect the presence of interfering signals in said second frequency band forms apart of said communication system transceiver (McConnell: col. 3, lines 66 through col. 4, line 1; col. 4, lines 29-32, e.g., when antenna 102 is transmitting signal 30, an interfering signal 132 occurs when antenna 102 is transmitting wireless system voice data and/or digital or analog data).

Regarding claim 3, McConnell in combination with Richards, Thomas, and Suzuki discloses the apparatus according to claim 1 above, wherein said processor configured to detect the presence of interfering signals in said second frequency band forms apart of said receiver

(McConnell: col. 4, lines 29-32, e.g., by properly adjusting the phase and amplitude of signal 208 via controller 128 and blocks 204 and 206, the effects of interfering signal 132 can be reduced or eliminated, therefore, detecting the presence of interfering signals).

Regarding claims 4 and 14, McConnell in combination with Richards, Thomas, and Suzuki discloses the apparatus and the method according to claims 1 and 12 respectively above, wherein said receiver includes an attenuator (McConnell: Fig.1, references 122 and 124; col. 3, lines 54-65, e.g., noted that a band pass filter) and wherein said processor configured to cause a manipulation of signals reaching said receiver is configured to cause manipulation by varying an attenuation applied by said attenuator based on said timing pattern for attenuating signals received by said receiver (col. 3, lines 58 through col. 4 lines 7, e.g., the exact time of switching and a prespecified time –e.g., 100 msec to 150 msec—before the out of the transmission burst by the second subunit 14; therefore, it is a manipulation of signal), in order to reduce a performance degradation due to interfering signals (col. 2, lines 11-15; col. 4, lines 19-26; col. 6, lines 10-18).

Therefore, taking the teachings of McConnell in combination of Richards, Thomas, and Suzuki as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have a processor configured to cause a manipulation of signals reaching said receiver is configured to cause manipulation by varying an attenuation applied by said attenuator based on said timing pattern for attenuating signals received by said receiver for advantages of reducing receiver sensitivity degradation.

Regarding claims 5 and 15, McConnell in combination with Richards, Thomas, and Suzuki discloses the apparatus and the method according to claims 4 and 14 respectively above, wherein said processor configured to cause a manipulation of signals reaching said receiver is

configured to set said attenuation higher as an intensity of detected interfering signals becomes higher (Thomas: col. 5, lines 3-5; col. 13, lines 24-29, e.g., for the attenuation at the maximum frequency, a much higher attenuation of A2 may be achieved).

Therefore, taking the teachings of McConnell in combination of Richards and Thomas as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have processor configured to cause a manipulation of signals reaching said receiver is configured to set said attenuation higher as an intensity of detected interfering signals becomes higher for advantages of reducing receiver sensitivity degradation.

Regarding claims 6 and 16, McConnell in combination with Richards, Thomas, and Suzuki discloses the apparatus and the method according to claims 1 and 12 respectively above, wherein said processor configure to cause a manipulation of signals reaching said receiver is configured to cause said manipulation, by causing a blocking of a reception of said signals based on said timing pattern (Thomas: col. 9, lines 35-44; col. 12, lines 1-4, e.g., blocking performance when transmit bursts are generated by the second subunit).

Therefore, taking the teachings of McConnell in combination of Richards and Thomas as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have processor configure to cause a manipulation of signals reaching said receiver is configured to cause said manipulation, by causing a blocking of a reception of signals based on timing pattern for advantages of reducing receiver sensitivity degradation.

Regarding claims 7 and 17, McConnell in combination with Richards, Thomas, and Suzuki discloses the apparatus and the method according to claims 1 and 12 respectively above,

wherein said processor configured to cause a manipulation of signals reaching said receiver is configured to cause said manipulation by causing a disregarding of said signals in an evaluation of said signals based on said timing pattern (McConnell: col. 4, lines 2-6, 11-17, e.g., since the interfering signal 132 so strong and real filters have limited stop band capability, the GPS receiver is desensitized by such a signal).

Regarding claims 8 and 18, McConnell in combination with Richards, Thomas, and Suzuki discloses the apparatus and the method according to claims 1 and 12 respectively above, wherein said processor configured to cause a manipulation of signals reaching said receiver is configured to cause said manipulation by detuning said second frequency range (Thomas: col. 12, lines 14-20, e.g., may be tuned to achieve a stop band attenuation towards interference signals from the second subunit).

Therefore, taking the teachings of McConnell in combination of Richards and Thomas as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have processor configured to cause a manipulation of signals reaching said receiver is configured to cause said manipulation by detuning said second frequency range for advantages of reducing receiver sensitivity degradation.

Regarding claims 9 and 13, McConnell in combination with Richards, Thomas, and Suzuki discloses the apparatus and the method according to claims 1 and 12 respectively above, wherein said processor configured to cause a manipulation of signals reaching said receiver is configured to cause a manipulation of signals reaching said receiver in time intervals during which said communication system transceiver of said device transmits signals at least with a

certain power level (McConnell: col.3, lines 24-39, e.g., the GPS front end circuitry includes a detector which provides the system a relative indication of the power level of the received wireless signal), in order to reduce a performance degradation due to interfering signals originating from said communication system transceiver of said device (McConnell: col. 3, lines 8-10, e.g., can be used to reduce or eliminate the degradation of GPS receiver sensitivity in other wireless transceiver).

Regarding claim 10, McConnell in combination with Richards, Thomas, and Suzuki discloses the apparatus according to claim 1 above, wherein said receiver is one of a satellite positioning system receiver (McConnell: (Abstract; col. 5, lines 8-9, e.g., Satellite Positioning System (SATPS))). It is noted that the Examiner did not address the limitation "a digital video broadcast-terrestrial receiver" due to the alternation claim.

Regarding claim 19, McConnell in combination with Richards, Thomas, and Suzuki discloses the apparatus according to claim 1 above, further comprising:
said communication system transceiver (McConnell: col. 3, line 13, e.g., the wireless transceiver) ; and said receiver (McConnell: col. 3, line 13, e.g., the GPS receiver).

Regarding claim 20, McConnell in combination with Richards, Thomas, and Suzuki discloses the apparatus according to claim 1 above, wherein said apparatus is a mobile phone or a laptop (McConnell: col. 1, lines 25-30; col. 5, line 12, e.g., such as Personal Data Assistants, mobile computer).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY PHAM whose telephone number is (571)270-7115. The examiner can normally be reached on Monday-Friday; 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Timothy Pham/
Examiner, Art Unit 2617

/VINCENT P. HARPER/
Supervisory Patent Examiner, Art Unit 2617